

WHAT IS CLAIMED IS:

1. An antifungal peptide having from seven to twelve amino acids comprising:

5 (a) a core sequence of amino acids selected from the group consisting of LIQL, IQLF, WLIQL, LIQLF and WLIQLF; and

(b) one or more cationic amino acids selected from the group consisting of K, R, H, ornithine and diaminobutyric acid at the amino and/or carboxy terminal portion of the core sequence.

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2. An antifungal peptide having from seven to nine amino acids comprising:

(a) a core sequence of amino acids selected from the group consisting of LIQL and IQLF; and

15 (b) at least two cationic amino acids selected from the group consisting of K, R, H, ornithine and diaminobutyric acid at the amino and/or carboxy terminal portion of the core sequence.

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3. An antifungal peptide having from eight to ten amino acids comprising:

(a) a core sequence of amino acids selected from the group consisting of LIQLF and WLIQLF; and

(b) at least two cationic amino acids selected from the group consisting of K, R, H, ornithine and diaminobutyric acid at the amino and/or carboxy
25 terminal portion of the core sequence.

4. An antifungal peptide having from nine to twelve amino acids comprising:

(a) a core sequence of amino acids selected from the group consisting of
30 WLIQLF; and

(b) at least three cationic amino acids selected from the group consisting of K, R, H, ornithine and diaminobutyric acid at the amino and/or carboxy terminal portion of the core sequence.

5 5. An antifungal peptide according to claim 1, 2, 3 or 4 selected from the group consisting of the peptides of SEQ ID NOS: 118-137 (XMP.285-304), 140-144 (XMP.307-311), 155-160 (XMP.322-327), 166-170 (XMP.335-339), 174-177 (XMP.343-346), 179-184 (XMP.348-353), 186 (XMP.355) and 188-190 (XMP.357-359).

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6. An antifungal peptide according to claim 1, 2, 3 or 4 having one or more D-isomer amino acids.

15 7. An antifungal peptide according to claim 6 selected from the group consisting of the peptides of SEQ ID NOS: 164 (XMP.333), 165 (XMP.334), 173 (XMP.342), 194 (XMP.363) and 196 (XMP.365).

20 8. An antifungal peptide according to claim 6 wherein said core sequence amino acids comprise D-isomer amino acids in reverse sequence order.

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9. An antifungal peptide according to claim 8 having the amino acid sequence set out in SEQ ID NOS: 163 (XMP.332) and 198 (XMP.367).

25 10. An antifungal peptide according to claim 1, 2, 3 or 4 wherein the amino terminal amino acid residue is acetylated.

30 11. An antifungal peptide according to claim 10 selected from the group consisting of the peptides of SEQ ID NOS: 162 (XMP.331), 185 (XMP.354), 187 (XMP.356), 195 (XMP.364), 199 (XMP.368) and 204 (XMP.373).

12. A cyclic antifungal peptide according to claim 1, 3 or 4.

13. A cyclic antifungal peptide according to claim 3 selected from the group consisting of SEQ ID NOS: 191-193 (XMP.360-362).

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14. An antifungal peptide selected from the group consisting of peptides of SEQ ID NOS: 1 (XMP.5), 2-4 (XMP.11-13), 5 (XMP.29), 20 (XMP.55), 56 (XMP.137), 79 (XMP.235), 111-115 (XMP.271-275), 117 (XMP.284), 132 (XMP.299), 138-139 (XMP.305-306), 145-154 (XMP.312-321), 200-203 (XMP.369-372), BPI residues 145-159 and 149-163 of SEQ ID NO: 206 and 171-172 (XMP.340-341).

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15. A pharmaceutical composition comprising an antifungal peptide according to any of claims 1 through 14 and a pharmaceutically acceptable diluent, adjuvant or carrier.

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16. An *in vitro* method for killing or inhibiting replication of fungi comprising contacting the fungi with an antifungal peptide according to any one of claims 1 through 14.

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17. A method of treating fungal infections comprising administering to a subject suffering from a fungal infection a therapeutically effective amount of a peptide according to any of claims 1 through 14.

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18. A method according to claim 17 wherein the fungal infection involves a fungal species selected from the group consisting of *Candida*, *Aspergillus* and *Cryptococcus* species.

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21. A method according to claim 17 comprising the additional step of administering a non-peptide anti-fungal agent.

Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1970	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100